



CBD



**CONVENTION ON
BIOLOGICAL DIVERSITY**

Distr.
GENERAL

UNEP/CBD/COP/4/Inf. 28
2 May 1998

ORIGINAL: ENGLISH

CONFERENCE OF THE PARTIES TO THE
CONVENTION ON BIOLOGICAL DIVERSITY
Fourth meeting
Bratislava, Slovakia
4 to 15 May 1998

The Darwin Declaration

Submission by the Government of Australia

This document has been submitted to the Executive Secretary by the Government of Australia for consideration under provisional agenda item 4 (Report and recommendations of the third meeting of SBSTTA). The document results from workshop on "Removing the taxonomic impediment" that was held in Darwin from 3 to 5 February 1998 with a view to advancing the Global Taxonomy Initiative in the light of decision III/10 of the Conference of the Parties and recommendation III/1 of the Subsidiary Body for Scientific, Technical and Technological advice (SBSTTA).

/...

[Texts of the Decisions Adopted by the Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity](#)

The Darwin Declaration

The governments of the world that recognise the Convention on Biological Diversity have affirmed the existence of a taxonomic impediment to sound management and conservation of biodiversity. Removal of this impediment is a crucial, rate-determining step in the proper implementation of the Convention's objectives. There is an urgent need to train and support more taxonomic experts, and to strengthen the infrastructure required to discover and understand the relationships among the world's biological diversity.

Information derived from biological collections held in the world's taxonomic institutions underpins the global, regional and national efforts to conserve biological diversity. The collections, staff and associated information serve as an essential resource for countries in fulfilling their obligations under the Convention on Biological Diversity.

Accordingly, a taxonomic perspective should be integrated into policies and programs established at all levels of government to achieve sustainable development and conserve biodiversity. These policies and programs include, but are not limited to, agriculture, forestry, fisheries, habitat management (including protection of threatened species), biological resources for medicine and human health, energy production, land use planning to accommodate human population growth, use of traditional knowledge, environmental education and training, ecotourism and bioprospecting. In addition, taxonomy should underscore all national, regional and global programs for inventory and monitoring of biological resources in ecosystems and requirements for broad-scale environmental assessment.

Building upon the recommendations and resolutions of previous conferences and studies (including those of DIVERSITAS), some leaders of key world taxonomic institutions, policy makers, funders and ecologists/conservation managers, meeting in Darwin, Australia, February 2–5 1998, agree that:

- 1) Within existing resources, taxonomic institutions must continue to pursue efforts to conserve biological diversity and achieve sustainable development.
- 2) Governments and other multilateral institutions must acknowledge the cost benefits of existing global collections in providing critical biological information to all nations.
- 3) Targeted additional funding must be provided to institutions to properly carry out their vital functions of maintaining biological specimens and associated information and to more broadly disseminate information derived from their collections. This must not be at the expense of existing taxonomic programs undertaken by these institutions which deserve continued support.
- 4) The taxonomic community must proceed with implementing the Global Taxonomy Initiative to harness the collective information of the taxonomic institutions in order to provide a truly global service to assist with the conservation and management of biological diversity.
- 5) The specific steps recommended by the participants at the Darwin Workshop for the implementation of the Global Taxonomy Initiative should be communicated to the Conference of the Parties to the Convention on

Biological Diversity at their meeting in Bratislava in May 1998.

DARWIN WORKSHOP ON 'REMOVING THE TAXONOMIC IMPEDIMENT' 3–5 FEBRUARY 1998

1. Workshop Background

The governments of the world have agreed that there is a need to mobilise resources to improve infrastructure, for training, for research and for access to taxonomic information. This action is required so that the global taxonomic effort can be improved to underpin the conservation, sustainable use and equitable sharing of benefits from biodiversity. This has been expressly recognised by the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) through their endorsement of a Global Taxonomy Initiative (GTI) to promote capacity building in taxonomy, proposed by their scientific subsidiary body in September 1996.

Since that time a number of discussions concerning the implementation of the GTI have been held at meetings of the Convention and other international scientific meetings. The Smithsonian Institution, through its National Museum of Natural History, approached the Global Environment Facility after the COP III meeting to propose an international workshop. The aim of the workshop would be to address the taxonomic impediment by trying to develop an action plan for implementing the proposed GTI. In a subsequent meeting in Montreal, Canada in September 1997, the CBD Secretariat endorsed the workshop proposal and requested that the Australian Biological Resources Study join with the Smithsonian Institution as co-convenors. The Australian Government subsequently offered Darwin as the location for the meeting. Support for the meeting was provided by the MacArthur Foundation, the Global Environment Facility (GEF), the U.S. Department of the Interior, Environment Australia, the Government of the Northern Territory, Australia and the Smithsonian Institution.

Several of the major taxonomic institutions, who share a common outlook to the problem, were unable to attend the meeting, including the Royal Botanical Gardens at Kew, the Missouri Botanical Garden, the American Museum of Natural History, the Field Museum and the Komarov in St Petersburg. It was also regrettable that funding and time did not allow representatives from Brazil or from the Arab Region to be present. The organisers have undertaken to inform these institutions and others of the Workshop results so that they, along with those present, can continue their united efforts to provide the knowledge base required to address the critical problems of providing taxonomic support for effective biodiversity management.

What is the 'Taxonomic Impediment'?

Taxonomy is the science of discovering, describing and naming the individual species of plants and animals, including microscopic forms, that make up the biota, and of working out their relationships to provide a classification. Such work has been reasonably well completed for some groups, such as mammals, birds, some higher plant groups, and some spectacular species of insects and molluscs. These species, however, comprise only a small portion of the flora and fauna. Little is known of the taxonomy, distribution, biology, and genetics of the vast majority. The taxonomic impediment is a term that describes the gaps of knowledge in our taxonomic system (including knowledge gaps associated with genetic systems), the shortage of trained taxonomists and curators, and the impact these deficiencies have on our ability to manage and use our biological diversity.

2. Rationale

The Darwin Workshop was specifically organised to provide the CBD and the GEF, as the financial mechanism for the Convention, with advice on how to implement the GTI to remove the taxonomic impediment. However, the Workshop organisers acknowledged that there were other funders and interested constituencies who could

also benefit from the advice offered. The organisers also recognised that many excellent efforts towards the same objectives were already underway around the world, including but not limited to DIVERSITAS, the Organisation of Economic Cooperation and Development (OECD) Megascience Forum's Biodiversity Informatics Subgroup, and BioNET-INTERNATIONAL. The Endnote has more detail on these and other initiatives.

While the present GEF Operational Strategy does not address taxonomy explicitly it does indirectly address issues through the ecosystem approach, which implicitly requires a sound basis in taxonomy. The Operational Strategy also addresses the need for research, and for appropriate technology for biological inventory and rapid assessment. Information systems are also identified as an important resource. Therefore, it should be interpreted that the GEF Operational Strategy already embraces taxonomy within its scope. Further, the COP of the CBD has instructed the GEF to include taxonomic activities in its operations. What is needed is a set of actions to enable the GEF to focus on this request.

The Darwin Workshop was designed to allow participants to build upon previous work to identify the key taxonomic issues requiring attention for biodiversity conservation, and to chart an action plan to consolidate existing initiatives into a truly global response to the problems. Four areas of endeavour were recognised as being essential in this process:

- how to prioritise taxonomic effort
- how to develop inter-institutional partnerships capable of addressing problems at the local, regional and global scales
- how to ensure taxonomic institutions are seen to more closely address widely held biodiversity concerns
- how to mobilise support from a wide range of stakeholders concerned with biodiversity conservation, including Non Government Organisations (NGOs) and Industry

3. The Role of Biological Collections

The mission of institutions such as museums and herbaria housing biological collections is to collect, document and store safely in readily accessible form specimens of the local, national, regional or global diversity of living organisms. The specimens are a record of genetic and morphological variation, past and recent geographical distribution and other biological information. Often they are the only remaining material of extinct species or the only record of species seen only once in the wild.

Despite the importance of these collections, both in developed and developing countries, we today are witnessing the deterioration of collection standards. The museums and herbaria which have been established to provide safe storage of specimens and the infrastructure for research and information retrieval now have inadequate resources even to maintain their collections in an active accessible form, let alone expand and develop their potential to contribute to the aims of the CBD and to national, regional and local objectives. There is therefore an urgent need for substantial funding to be made available to museums, herbaria, and relevant living collections to secure their future.

With appropriate funding, the priorities for managing these collections globally are:

- to extend focussed collections in less studied taxonomic groups/taxa and selected geographical areas
- to develop a mechanism for establishing priorities for capturing data in collections, for undertaking surveys and for selecting areas to collect and inventory
- to ensure institutional collaboration at the regional level, as the most cost-effective means of addressing the current shortfalls in collections

4. Accessing the Information within Biological Collections

Information contained within biological collections (including, with reference to global change, in palaeontological collections) is a key resource for countries fulfilling their obligations under the CBD and other significant environment Conventions including the Framework Convention on Climate Change, the Convention on Wetlands of International Importance, the Convention on Migratory Species, and the Convention on International Trade of Endangered Species of Wild Flora and Fauna (CITES). Ready access to this information will be an important component of a truly global response to developing cost-effective, rapid, and efficient means for implementation of these Conventions. Considering the accumulated investment in building these global collections over the past several centuries, a major short term investment to improve access would be particularly cost-effective.

A number of international initiatives are already underway including that of the OECD through its Biodiversity Informatics Subgroup of the OECD Megascience Forum, and the DIVERSITAS program, which includes Species 2000. More details are contained in the Endnote.

The essential requirements for accessing and utilising this global information are:

- that there is access to information held in national/regional/global collections
- that electronic data is efficiently captured and provided in useable form
- that existing information held in literature and by current experts is made available electronically
- that stability of scientific names of organisms, used to access this information, is promoted
- that useful taxonomic products are prepared on local, national, and regional levels

5. Communication of the Role of Taxonomy in Biodiversity Conservation

Implementation of the CBD requires activity in three key areas: identification, assessment and monitoring; conservation; and sustainable use. Each requires the support of a number of taxonomic activities, as outlined below.

Identification, assessment and monitoring

- Biological survey, collecting and taxonomy
- Rapid assessment methods (indicator groups, higher taxa, morphospecies)
- Biodiversity inventories, possibly some including all taxa within an area
- Molecular assessment methods for microorganisms
- Assessment of phylogenetic diversity

Conservation

- Identification of taxa requiring conservation action
- Taxonomic understanding of species on red lists
- Indicator species taxonomy
- Reserve site selection criteria based on taxon richness, endemism, and representativeness
- Wild relatives of domesticated species

Sustainable use

- Identification of resources for harvesting, bioprospecting etc.
- Integration of ethnobiological knowledge
- Development of predictive phylogenetic tools
- Taxonomy of key-stone species for ecosystem services

- Sustainable agriculture, horticulture and forestry
- Indicators of sustainable use
- Identifying agents for use in biological control, invasive species management and disease control
- Information to underpin ecotourism

When set down in this way, the crucial importance of taxonomy to the conservation and sustainable use of biological diversity is evident both to taxonomists and to those involved in detail with such conservation and use. However, this fundamental point has not been adequately communicated to those who constitute or create markets for the goods and services which taxonomy provides or underpins. These include international donor agencies, national and local governmental bodies, NGOs, the private sector (e.g. developers, extractive industries, eco-tourism, and the media) and educational institutions at all levels. For the work of taxonomy to grow and fulfil its potential, those who do appreciate the value of taxonomy, in particular natural history institutions throughout the world, must orient themselves to these markets, delivering the goods and services that the markets demand and collaborating with those in the marketplace to develop improved products and services. The predominant perception held by non-taxonomists of the taxonomic community is that its vision has been historically inward. We need to change this perception to reflect the modern views and thoughts of the global taxonomic community.

The two main avenues to achieve this change are:

- **Priorities.** The taxonomic community must identify clearly its own priorities in the strengthening of taxonomic capabilities, noting that efforts are already underway pro parte through the DIVERSITAS program (see Endnote).
- **Policy and Program Development.** Taxonomy should be integrated at all levels of government into policies and programs for sustainable development and biodiversity conservation. These include agriculture, forestry, fisheries, protection of threatened species, biological resources for medicine and human health, energy production, land use planning to accommodate human population growth, use of traditional knowledge, environmental education and training, print and electronic media, ecotourism and bioprospecting, as well as national and local programs for inventory and monitoring of biological resources in ecosystems.

6. The Role of Funding Bodies

Funding for taxonomy should be an integral component of sustainable development activities at the policy, program and project level. Funding options should include governmental and private-sector funding for implementation of national policies within countries, as well as loans and concessional grants from multilateral Development Banks and national development agencies.

At the international level, multilateral Development Banks and bilateral assistance agencies can contribute to the process of 'mainstreaming' taxonomy through:

Projects

- by assisting countries in preparation of GEF projects
- by assisting countries to obtain bilateral funds
- by including taxonomy as a component in appropriate projects (e.g. agro-biodiversity, forestry)

Policy Development

- by including taxonomic perspectives in national policy frameworks for sustainable development

Training & Capacity Building

- by including taxonomic knowledge in general environment training programs (for bi- & multilateral institutions, NGOs, governments etc). Such training may range from technical and curatorial workshops to university courses and degrees in systematics

Dissemination of Best Practises

- by funding a number of good ‘case studies’ linking taxonomy to broader development issues, with Best Practise focussing on the applied aspects of taxonomy particularly in relation to training, capacity building and uptake of new techniques/technologies

7. Mobilising Information for Equitable Benefit-Sharing

The Darwin Workshop recognised that, to implement the GTI, nations must undertake an urgent mobilisation of information relating to the species of the world from institutions that hold important biodiversity collections. Such a global program is a ‘once only’ operation which would provide real efficiencies and cost-effectiveness, with the significant outcomes of:

- sharing, with all countries, the benefits of the investment made in gathering this information
- strengthening the taxonomic capabilities of countries to meet the objectives of their national biodiversity action plans

8. The Cultural Heritage Value of Taxonomic Collections

Biological collections are a significant component of the scientific and cultural heritage of all nations, and humankind in general, and therefore should be given the care and attention necessary to ensure their safety for posterity. As an example of this care, the signatory states of the Hague Convention of 1954 recognised scientific (including biological) collections as part of the cultural heritage of humankind and committed themselves to their safeguard against the hazards of war.

Biological collections document past biological research and at the same time provide the essential foundations for biodiversity research in the future. The heritage value of several centuries of taxonomists’ efforts to inventory global biological diversity is immense. Living biological collections (including culture and germplasm collections) are essential instruments for the ex-situ preservation of genetic heritage, and for promoting public awareness of biodiversity.

SUGGESTIONS FOR ACTION

The Darwin Workshop agreed that, in order to develop and implement the GTI:

The CBD Secretariat, as a matter of urgency, appoint a Program Officer with appropriate operational resources to have responsibility for the further development of the GTI, through the network of existing global, regional and national relevant institutions and organisations. The officer should especially coordinate actions to meet the need, recognised by the meeting, for each country to conduct a national taxonomic needs assessment in conjunction with national reporting under the CBD and immediately coordinate a global directory of taxonomic expertise and biological collections. This information resource should be made available in both electronic and paper form.

Additional suggestions for action, which could primarily be undertaken by individual countries or institutions, and where appropriate be supported by donors, include:

- National governments and authorities responsible for museums and herbaria should invest, on a long-term basis, in the development of appropriate infrastructure for their national collections. As part of that investment, donors, both bilateral and multilateral, in their commitment to the conservation and sustainable use of biological diversity in countries where they provide investment support, should support infrastructural needs of collection-holding institutions.
- National governments and international donors should encourage partnerships between institutions in developed and developing countries so as to promote scientific collaboration and infrastructure rationalisation. Such collaboration should include the development of national, sub-regional, regional and global training initiatives. Taxonomic institutions in each nation, both individually and regionally, should develop national priorities in taxonomic training, infrastructure, new technology, capacity building and market needs.
- National governments and authorities should adopt internationally agreed levels of collection housing (climate control, fire protection systems, pest control, acceptable levels of workplace health and safety) that ensure protection of collections and the well-being of all people working on and accessing collections.
- National governments and international donors should provide training programs at different educational levels, relevant to the needs of individual countries, including vocational, technical and academic training. National governments should also recognise that ongoing employment for trainees is part of an effective training scheme.
- National governments and authorities should utilise information systems to maximum effect in taxonomic institutions. In developing priority-setting criteria for information products, taxonomic institutions should consider the needs of the wide range of users of that information, including bio-diversity managers. In particular, taxonomic information, literature and checklists should be put into electronic form.
- Parties to the CBD should report on measures adopted to strengthen national capacity in taxonomy, to designate national reference centers, and to make information housed in collections available to countries of origin.
- Institutions, supported by national governments and international donors, should co-ordinate their efforts to establish and maintain effective mechanisms for the stable naming of biological taxa.
- OECD Governments should endorse and support the recommendations from the OECD Megascience Forum's Biodiversity Informatics Subgroup, regarding the development of the Global Biodiversity Informatics Facility (GBIF) to allow people in all countries to share biodiversity information and to provide access to critical authority files.

IMPLEMENTING THE ACTIONS

The nine actions recommended above could be implemented in a variety of ways. The Darwin Workshop offers the following selection of implementation mechanisms as the most likely to succeed. The Workshop noted that all countries that are signatory to the CBD are required to report on the actions undertaken to ensure adequate information on and identification of biodiversity, including the status and needs of their biological collections. Adherence to these requirements will help implementation of the suggested recommendations, particularly through providing a global overview of gaps in information and effort.

- The Clearing-House Mechanism of the CBD, in collaboration with the OECD Megascience Forum's Biodiversity Informatics Subgroup Initiative, should develop protocols and strategies for coordinating access to and distribution of taxonomic information contained in collections. In addition, the Clearing-House Mechanism of the CBD, through its national focal points, should establish and update directories of taxonomists and their research and identification expertise.

In addition, national governments should:

- Ensure institutions responsible for biodiversity inventories and taxonomic activities are financially and administratively stable, so as to have potential for continued and growing training and employment opportunities.
- Assist institutions to establish consortia to conduct regional projects.
- •Select or use centers of expertise at different geographical levels, capable of offering training programs individually or in combination, where such centers include universities, museums, herbaria, botanical and zoological gardens, research institutes and international or regional organisations such as BioNET-INTERNATIONAL.
- Give special attention to international funding of fellowships for specialist training abroad or for attracting international experts to national or regional courses. Appropriate areas for funding should include conventional academic courses, expeditions, collaborative research projects, secondments, institutional partnerships, regional floras and faunas, internships and tutorial guidance.
- Provide programs for re-training of qualified professionals moving into taxonomy-related fields.
- Adapt training methods to the particular technical or academic backgrounds and experience of candidates. Content of courses should respond to external user demands and modern needs, taking into account cost-effectiveness in its delivery.
- Ensure training programs address gaps in knowledge and the need for specialists in given taxonomic groups, and offer a comprehensive view of biodiversity issues, including new scientific/technological approaches to taxonomy (e.g. molecular biology/informatics).
- Provide business management training, of the nature commonly offered to private sector executives, for managers of biodiversity institutions, as part of other efforts to strengthen those organisations.
- Develop and maintain a register of practising taxonomists, areas of expertise and description of collections through electronic and other means, and publish them on the internet.
- Hold workshops to determine national taxonomic priorities, in the context of national biodiversity studies and action plans. Once national priorities have been identified, support development of regional taxonomic priorities, including plans to establish databases of collections using mutually agreed software, quality control and core data requirements.

GEF and other bilateral and multilateral donors should:

- Give priority to funding projects that will enhance infrastructural capacity building, as well as promoting partnerships at the regional and global level. Use of regional and global information networks including BioNET-INTERNATIONAL, East Asian Network for Taxonomy and Biodiversity Conservation (EANetTBC), Southern African Botanical Diversity network (SABONET), Flora Malesiana and Fauna Malesiana, Flora Neotropica, and Flora of the World can help as appropriate mechanisms and models to assist in implementation of these approaches.
- Be flexible, open and non-bureaucratic in funding schemes, at the appropriate scale (including international), which provide access to information contained in the collections as well as providing longer term planning and support for collections with global significance.

Institutions/individuals should:

- Adhere to standards and guidelines on issues such as data structure, quality control, intellectual property rights and local capacity building.
- Use agreed common standards for information structure for transfer of information between biological collections.
- Develop checklists, produce field guides and strengthen reference and voucher collections at the national/regional/global scale, to assist biodiversity managers and other users.
- Support and encourage a system for the registering of newly proposed names of organisms and help establish reviewed inventories of those names which are currently used.
- Make available the taxonomic and specimen databases that they have developed as part of their individual research.

- Establish minimum requirements for core data for major groupings of organisms.
- Develop regional collaboration across all areas of taxonomic science.
- Where possible promote common linkages between regions, when regional priorities and needs coincide, and involve the international donor community in establishing these linkages.

ENDNOTE

The participants at the Darwin Workshop considered several available models to overcome the taxonomic impediment. This is not an exhaustive list but represents the scope of excellent models which are currently active or under consideration.

DIVERSITAS. The Workshop participants recognised the importance of this emerging agenda for setting research priorities, stimulating international cooperation, and exchange of information. The action plan of the DIVERSITAS Core Programme Element Three (Systematics/Agenda 2000 International) was noted by the Workshop participants as an advancing program. Participants urge its strengthening and broader participation by the taxonomic community. Participants also recognise that the DIVERSITAS Secretariat needs appropriate staffing to meet the program's implementation needs.

DIVERSITAS also includes the Species 2000 initiative, which is an international program focussing on a global linking of taxonomic databases involving all organisms, including lower plants and animals. As part of the Species 2000 approach, The International Organisation for Plant Information (IOPI), which represents many of the major botanical taxonomic institutions of the world in both developed and developing countries, is engaged in compiling a global plant checklist and more in-depth global taxonomic plant treatments. IOPI will explore possible pilot collaborative projects that meet the criteria suggested at the Darwin Workshop.

OECD. The OECD, through its Biodiversity Informatics Subgroup of the Megascience Forum, has recognised that the major scientific collections in the developed world are a fundamental part of what should be a global biodiversity information facility. The OECD Megascience Forum has proposed such a facility, the Global Biodiversity Information Facility (GBIF), be implemented to serve the needs of all nations and developed in close connection with the Clearing-House Mechanism of the CBD and with national and international institutions.

EuroMAB Flora and Fauna. The EuroMAB component of the World Network of Biosphere Reserves is developing taxonomic inventories of Biosphere Reserves. As Biosphere Reserves are ideal models for sustainable development it is hoped this approach is translatable to the wider landscape/seascape.

Initiatives for critical taxa. It is crucially important to develop a few new pilot projects, bringing together resources of governments, institutions and scientists, that will address the critical areas of biodiversity. Ideally such a project would involve a taxonomic group that requires international cooperation : a group of taxa with a broad geographical distribution, that is relevant for the objectives and priorities and which will yield results in the short term.

One proposed group that meets the above criteria is the freshwater fish of the Americas. Significant collections, taxonomic expertise and databases already exist, and any initiative could build upon these efforts in a cost-effective manner. CONABIO, INBIO, and the Humboldt Institute, working with other national institutions, will be exploring this initiative as a result of discussions at the Workshop.

Similarly, the Major Systematic Entomology Facility (MSEF) group is developing a proposal for an all-biota taxonomic inventory under which a number of widespread, informative and sizeable groups are treated globally. The methods and outcomes will include sampling in little studied areas, a complete checklist/catalogue, taxonomy, interactive identification keys, phylogeny, classification and databased distribution. Groups with 4,000–20,000 species are being considered, including families of spiders, termites and dung beetles.

LIST OF PARTICIPANTS

Dr J R B Alfred

Director
Zoological Survey of India
M-Block, New Alipore, Calcutta 700 053
W. Benghal
India
Tel: 91 33 478 6893
Fax: 91 33 478 6893

Dr Pieter Baas

Scientific Director
Rijksherbarium/Hortus Botanicus
Leiden University &
National Research School 'Biodiversity
PO Box 9514
2300 RA Leiden
The Netherlands
Tel: 31 71 527 3515
Fax: 31 71 527 3511
baas@Rulrhb.LeidenUniv.nl

Dr Alan Bartholomai

Director
Queensland Museum
Queensland Cultural Centre
Box 3300 South Brisbane Qld, 4101
Australia
Tel: 61 7 840 7659
Fax: 61 7 846 1918
alan@qm.qld.gov.au

Prof. Steve Blackmore

Keeper of Botany
Natural History Museum
Cromwell Rd London SW7 5BD
United Kingdom
Tel: 44 171 938 8992
Fax: 44 171 938 9232
sb@nhm.ac.uk

Dr Peter Bridgewater

Chief Science Adviser
Environment Australia
PO Box E305, Kingston, ACT, 2604
Australia
Tel: 61 2 6217 2030

Fax: 61 2 6217 2028
pbridge@ibm.net

Dr William Brown

Science Advisor to the Secretary
US Dept of the Interior
Office of the Secretary
1849 C Street, NW, Washington, DC, 2040
USA
Tel: 1 202 208 4177
Fax: 1 202 219 0229
WILLIAM_BROWN@IOS.DOI.GOV

Dr Arie Budiman

Head
Research & Development Center for Biology
Indonesian Institute of Sciences (LIPI)
Jl. Ir. H. Juanda No 18, Bogor
Indonesia
Tel: 62 251 321041
Fax: 62 215 325854
ariebud@Indo.net.id

Mr Ian Cresswell

Director, Flora
Australian Biological Resources Study
GPO Box 636, Canberra, ACT, 2601
Australia
Tel: 61 2 250 9443
Fax: 61 2 250 9448
ian.cresswell@ea.gov.au

Mr Clyde Dunlop

Director
Northern Territory Herbarium
Parks and Wildlife Commission, NT
Australia
Tel: 61 8 8932 4512
Fax: 61 8 8932 3849
clyde.dunlop@nt.gov.au

Dr Torbjorn Ebenhard

Scientific Research Director, Animal Biodiversity
Swedish Biodiversity Centre
Box 7007, S-750, 07 Uppsala
Sweden
Tel: 46 18 672268
Fax: 46 18 673537
Torbjorn.Ebenhard@cbm.slu.se

Dr Dennis Fenn

Chief Biologist

US Geological Survey
12201 Sunrise Valley Drive, MS 300 Reston, VA 22192
USA
Tel: 1 703 648 4050
Fax: 1 703 648 4042
Denny_Fenn@usgs.gov

Prof. Werner Greuter

Director
Botanischer Garten und Botanisches Museum
Konigin-Luise-Str. 6-8, D-14191 Berlin
Germany
Tel: 49 30 8300 6132
Fax: 49 30 8300 6186
wg@zedat.fu-berlin.de

Dr Linda Hedlund

Senior Scientific Officer
Swedish Scientific Council
106 48 Stockholm
Sweden
Tel: 468 698 1368
Fax: 46 8 698 1402
lhe@environ.se

Prof. Paul Henderson

Director
Natural History Museum
Cromwell Rd, London SW7 5BD
United Kingdom
Tel: 44 171 938 9010
Fax: 44 171 938 9506
ph@nhm.ac.uk

Dr Doug Hoese

Chief Scientist
Australian Museum
Division of Vertebrate Zoology
& Scientific Services
6 College Street, Sydney, NSW, 2000
Australia
Tel: 61 2 9320 6245
Fax: 61 2 9320 6059
dough@amsg.austmus.gov.au

Dr Da-Wei Huang

Deputy Director
Institute of Zoology, Academia Sciences
19 Zhongquancun Lu, Beijing 100080,
China
Tel: 86 10 6254 7484
Fax: 86 10 6256 5689

huangdw@panda.ioz.ac.cn

Dr Mohammed Isahakia

Director
National Museums of Kenya
PO Box 40658, Nairobi
Kenya
Tel: 54 742 131
Biodive@tt.gn.aoc.org

Prof Tecwyn Jones

Director
The BioNET-INTERNATIONAL (Technical Secretariat)
C/O CAB International, Bakeham Lane
Egham, Surrey TW20 9TY
United Kingdom
Tel: 44 1784470111
Fax: 44 1784 470 909
bionet@cabi.org

Dr Byung-Hoon Lee

Director
Korean Institute for Biodiversity Research (KIBIO)
Chonbuk National University, Deogjin-dong Chonju, 561-756
Republic of Korea
Tel: 82 652 70 2783
Fax: 82 652 70 3448
ybh@moak.chonbuk.ac.kr

Dr Rodrigo Gamez Lobo

Director General
INBio
Apartado Postal 22-3100, Santo Domingo Heredia
Costa Rica
Tel: 506 244 0690/0692
Fax: 506 244 4654
rgamez@quercus.inbio.ac.cr

Dr Walter Lusigi

Senior Adviser
Global Environmental Facility (Sustainable Land Management)
1818 H.St. NW, Washington, DC 20433
USA
Tel: 1 202-473-4798
Fax: 1 202-522-3240
WLUSIGI@WORLDBANK.ORG

Dr Neville Marchant

Director
Western Australian Herbarium, Perth
Locked Bag 104
Bentley Delivery Centre, WA, 6983

Australia

Tel: 61 8 9334 0505

Fax: 61 8 9334 0515

nevilliem@calm.wa.gov.au

Dr Nancy Morin

Executive Director

American Association of Botanical

Gardens and Arboreta

786 Church Road, Wayne, PA 19087

USA

Tel: 1 610 925 2500 ex 16

Fax: 1 610 925 2700

Morin@mobot.mobot.org

Dr Valery M Neronov

Deputy Chairman

Russian Committee for the UNESCO Program Man and the Biosphere

13 Fersman Street, Moscow 117312

Russia

Tel: 7095 124 6000

Fax: 7095 129 1354

mabru@glas.apc.org

Dr Ebbie Nielsen

Director

Australian National Insect Collection

CSIRO Entomology

GPO Box 1700, Canberra, ACT, 2600

Australia

Tel: 61 2 6246 4258

Fax: 61 2 6246 4264

ebben@ento.csiro.au

Dr Knut Opsal

Head

African Development Bank (Environment & Sustainable Development Unit)

01 B.P. 1387, Abidjan

Cote D'Ivoire

Tel: 225 20 4126

Fax: 225 20 5035

K.OPSAL@AFDB.ORG

OESUADB@AFRICAONLINE.CO.CI

Dr Rick Pridmore

Research Director

National Institute of Water & Atmospheric Research

P O Box 11-115 Hamilton

New Zealand

Tel: 64 7 856 1778

Fax: 64 7 856 1710

pridmore@niwa.cri.nz

Dr Carlos Rodriguez

Director
Museum Nacional de Historia Natural
Plaza de la Cultura, Calle Cesar Nicolas Penson, Santa Domingo
Republica Dominicana
Tel: 1 809 685 1580
Fax: 1 809 412 1667
aragua@tricom.net

Dr Christian Samper

Director General
Instituto Alexander von Humboldt
Apartado Aereo 8693, Bogota
Colombia
Tel: 57 87 320165
Fax: 57 87 320 792
cristian@openway.com.co

Prof. Jameson Seyani

General Manager
National Herbarium and Botanic Gardens
PO Box 528, Zomba
Malawi
Tel: 265 523 118
Fax: 265 522 108
jseyani@unima.wn.apc.org/ Nhbmg@malawi.net

Dr Gilberto Silva

Especialista Principal
Museo Nacional de Historia Natural
Obispo No 61, e/ Oficios y Baratillo
La Habana Vieja, 10100
Cuba
Tel: 53 7 63 2589
Fax: 53 7 620353
mnhn@ceniai.cu

Dr Ross Simons

Director
Smithsonian Environmental Research Center
Edgewater MD, Washington DC
USA
Tel: 1 301 261 4190 ext 205
Fax: 1 301 261 7546
rsimons@sivm.si.edu

Dr Jorge Soberon

Secretario Ejecutivo
CONABIO
Freandez Leal No. 43, Barrio de la Concepcion Coyoacan, 04020 DF
Mexico

Tel: 525 554 4332
Fax: 525 554 7472/1915
jsoberon@xolo.conabio.gob.mx

Prof. Simon Tillier

Président de la Commission de la Recherche
Museum National de Histoire Naturelle
43 Rue Cuvier, 75005 Paris
France
Tel: 33 1 4079 3896
Fax: 33 1 4079 3844
tillier@mnhn.fr

Prof. Hiroshi Tobe

Faculty of Integrated Human Studies
Kyoto University
Kyoto 60660-01
Japan
Tel: 81 075 753 6853
Fax: 81 075 753 6551
tobe@gaia.h.kyoto-u.ac.jp

Dr Wolfgang Volkheimer

Director
Museo Argentino de Ciencias Naturales
Angel Gallardo, 470 (1405), Buenos Aries
Argentina
Tel: 54 1982 5243
Fax: 541 982 4494
volkheimer@muanbe.gov.ar

Dr Chris Willis

SABONET Project Coordinator
National Botanical Institute
Private Bag X101, Pretoria 0001
South Africa
Tel: 27 12 804 3200
Fax: 27 12 804 3211
ckw@nbipre.nbi.ac.za

Prof. A H Zakri

Deputy Vice-Chancellor
(Academic Affairs) Universiti Kebangsaan Malaysia
43600 Ukm, Bangi
Malaysia
Tel: 603 8250 343
Fax: 603 8292 416
Zakri@pkrisc.cc.ukm.my

The Darwin Declaration

Published by: Australian Biological Resources Study, Environment Australia, Department of the Environment, Canberra.

The views and opinions expressed in this document are not necessarily those of the publisher, Environment Australia, Canberra.

Citation: Environment Australia 1998. *The Darwin Declaration*, Australian Biological Resources Study, Environment Australia, Canberra.

Available from:

Australian Biological Resources Study
Environment Australia
Department of the Environment
GPO Box 636
CANBERRA ACT 2601
AUSTRALIA

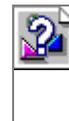
© Biodiversity Group, Environment Australia, 1998

Hard Copy - ISBN: 0 642 21413 1

ABRS is a program within the [Biodiversity Group](#) of [Environment Australia](#), in the Australian [Environment Portfolio](#).

Last updated on 24 August 1998. Please direct enquiries and comments to (abrsweb@ea.gov.au)

© Copyright 1998, ABRS



[HOME](#)